

Recommendation Systems - 1

[ML-2]

→ Introduction

→ A priori Algorithm

TT - 5th Nov

Can you give examples of rec. sys?

→ E-commerce

↳ Customers who bought this
also bought ---

↳ Similar products

→ Social media

↳ You may also know....

→ Feed:

→ inventory plan
→ search algo

↳ Similar posts / blogs / news
videos / songs

Instagram, netflix, spotify, youtube

Poll: Can a search algo like 'google search' be interpreted as a rec sys?.

a) YES

b) NO

1 min rec - Sys

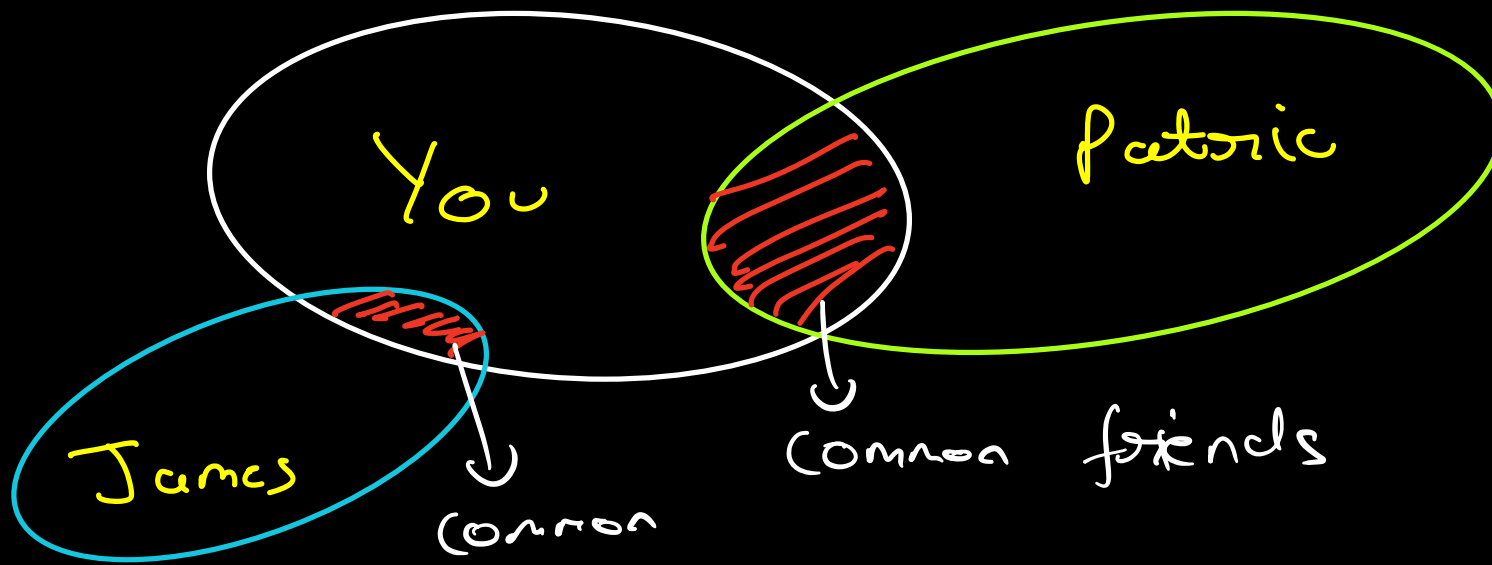
In facebook, you get suggestions such as!

You may also know:

→ Gyan Arora

How can you → Patrick Peterson

design this →
system?



for u in all_users:

if $\text{len}(u.\text{friends.intersection}(\text{my_friends}))$

$> \text{threshold}$

$\text{recommend} = \text{True}$

variation
convert to %
based

Why are they useful?

→ increase in revenue !!

→ better user experience !!

E-commerce



people may buy
more products



more money \$\$

Social media



- People will stay
"engaged longer".

↳ I show ad after
5 songs

- More users will join

→ more ads / more users

→ more money \$

E-commerce



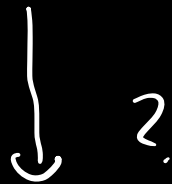
Similar products

RAM	ROM	Processor	Price	OS ...
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
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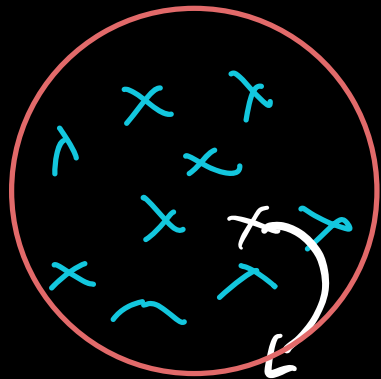
User is looking at: Dell XPS 8 GB - i5

Recommendation — ?

List of suggestions ?

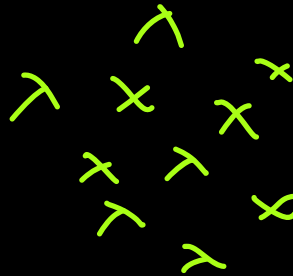


Low end

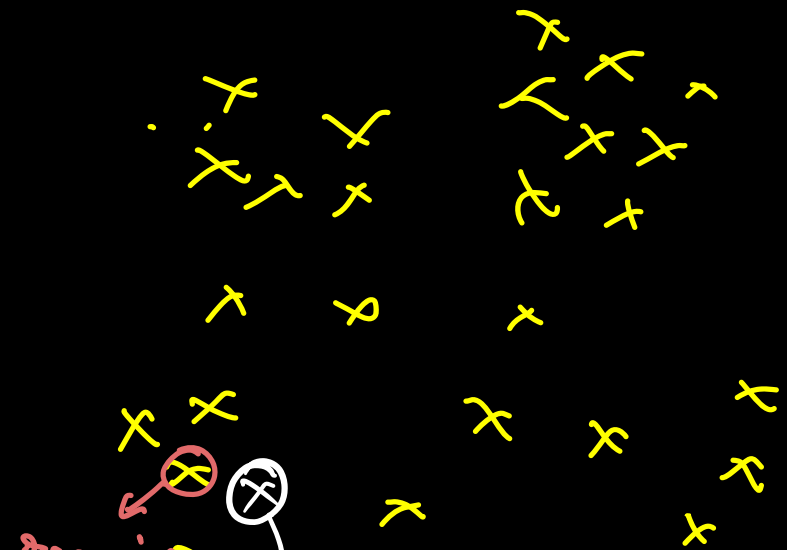


del xps 8-15
Professional

Gaming



recommend
from
this
cluster.



recommend
closest
practically del

xps - 8GB
i5

Distance can be
→ cosine
→ euclidean, etc.

People who bought this also bought ...

↳ iphone : case
airpods
iwatch
warranty

↳ bread : milk
butter
Jam
eggs

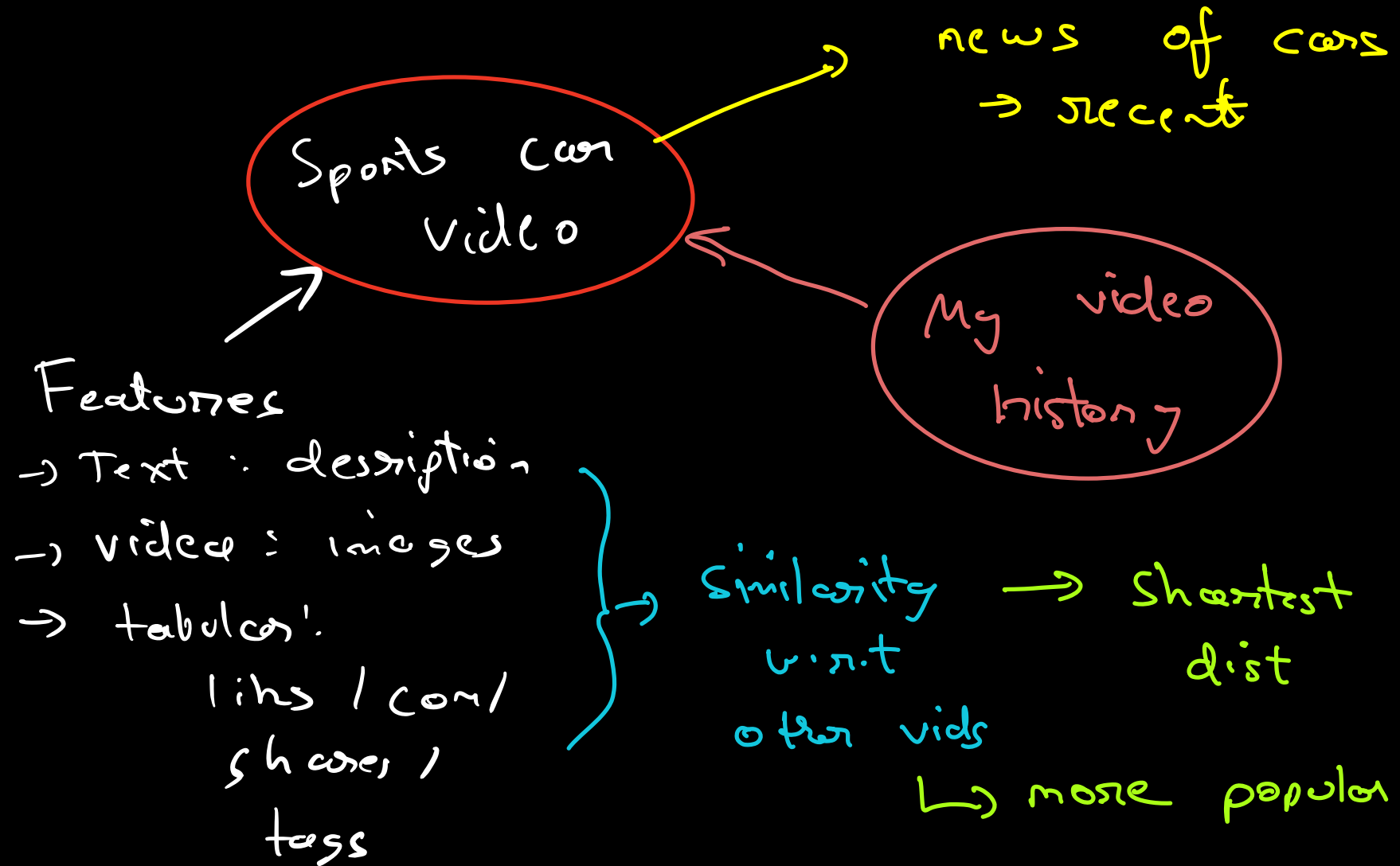
↳ flight tickets to Kashmir
↳ hotels in Kashmir
↳ sweaters.

Data based:
↓

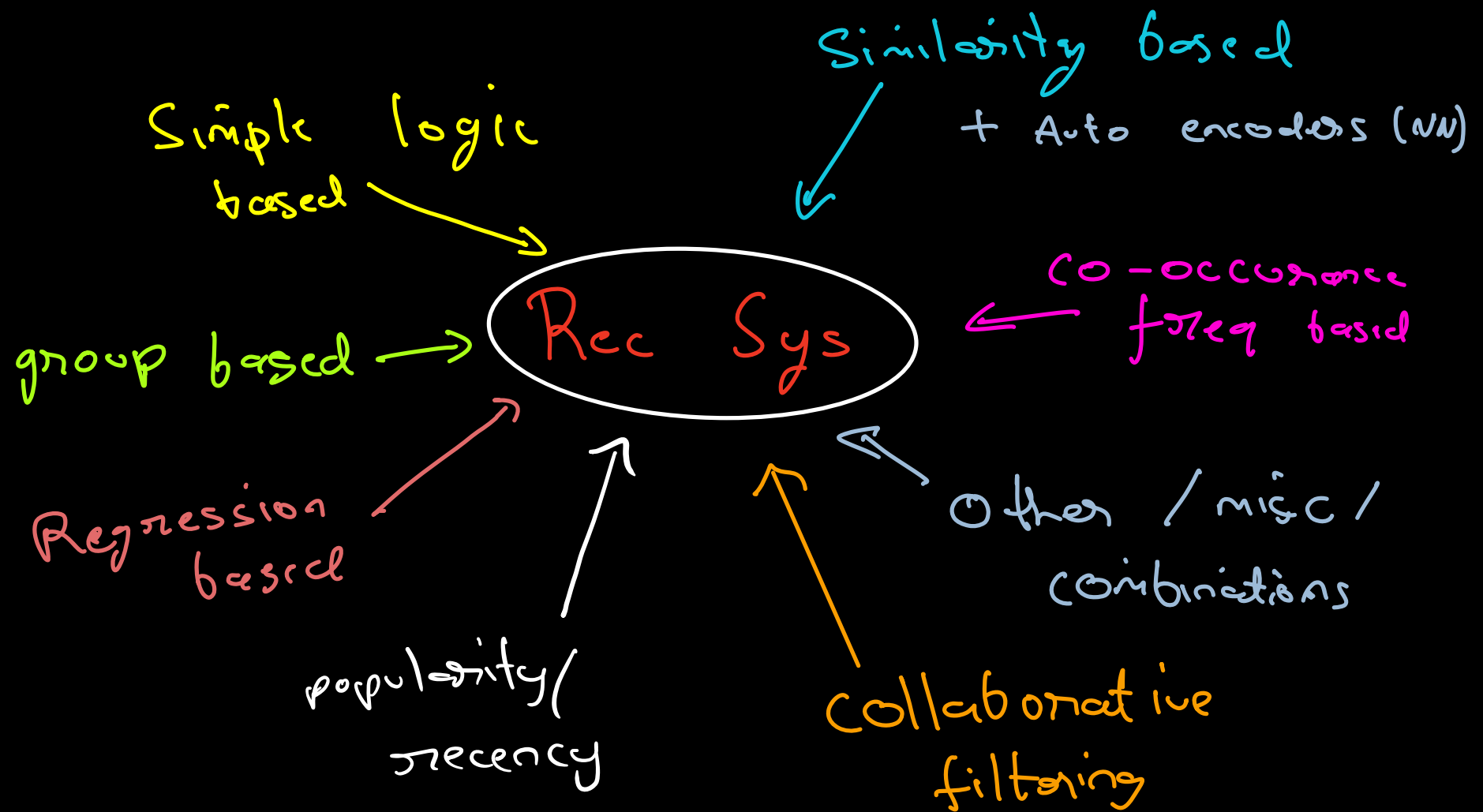
Apriori

How many times
did it happen in
the past ?

Youtube



Broad Ideas



* could be many more types of ideas

Feedback Signals

Q: How can you tell if a user would appreciate your recommendation on any item in general?

→ Buy? How many?

→ Wishlist,

→ View page # times, # mins

→ Watch video?

↳ % watched

→ like / share / com / rating

→ Add to playlist / downloaded / etc...